



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/550,536

09/22/2005

Ulrich Durr

ICB0224

3109

24203 7590 09/14/2009

GRIFFIN & SZIPL, PC
SUITE PH-1
2300 NINTH STREET, SOUTH
ARLINGTON, VA 22204

EXAMINER

HEINRICH, SAMUEL M

ART UNIT

PAPER NUMBER

3742

MAIL DATE

DELIVERY MODE

09/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,536	Applicant(s) DURR ET AL.	
	Examiner Samuel M. Heinrich	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 12-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/30/2009</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 12-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer.

Blakey describe (Figure 2) laser head 20, external modulator 21, and focus lens 23 used for laser drilling.

Braiman et al describe (Figure 4a) a pumped Nd:YAG laser resonator with external modulator 450 and focus lens 460.

Lantzer describes (column 3, lines 55-59) well known shortening of the laser pulse length which changes the laser power.

The instant claimed apparatus would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the arrangement of the resonator and modulation means are well known and because changing the pulse length is very well known. Note, method limitations may not positively further limit apparatus claims.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer as applied to claim 12 above, and further in view of USPN 6,331,993 to Brown.

Brown describes (Abstract) diode optics for directing the beam and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art for efficient beam distribution.

Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer as applied to claim 12 above, and further in view of USPN 6,047,011 to Cook.

Cook describes (column 5, lines 23-39) oscillator pulse and subsequent amplifier pulse and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because it provides control for pulse spacing and overlap.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer in view of USPN 6,331,993 to Brown as applied to claim 13 above, and further in view of USPN 6,047,011 to Cook.

Cook describes (column 5, lines 23-39) oscillator pulse and subsequent amplifier pulse and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because it provides control for pulse spacing and overlap.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer in view of USPN 6,331,993 to Brown as applied to claim 13 above, and further in view of USPN 4,114,018 to Von Allmen et al.

Von Allmen et al describe (column 6, lines 54+) polarizer and quarter wave plate and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art for energy application control.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer in view of USPN 6,331,993 to Brown in view of USPN 6,047,011 to Cook as applied to claim 15 above, and further in view of USPN 4,114,018 to Von Allmen et al.

Art Unit: 3742

Von Allmen et al describe (column 6, lines 54+) polarizer and quarter wave plate and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art for energy application control.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer in view of USPN 6,331,993 to Brown as applied to claims 14 and 18 above, and further in view of USPN 5,828,683 to Freitas.

Freitas describe (column 1, lines 17+) both flash lamp and diode pumped solid state lasers and the use of a flash lamp would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because of relative availability of the flash lamp.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer as applied to claim 12 above, and further in view of USPN 5,381,437 to Kuwabara et al.

Kuwabara et al describe (Abstract) well known solid state laser outputting a linear polarized beam and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because of its suitable power for machining.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer in view of USPN 6,331,993 to Brown in view of USPN 5,828,683 to

Art Unit: 3742

Freitas as applied to claim 21 above, and further in view of USPN 5,377,212 to Tatsuno et al.

Tatsuno et al describe (column 5, lines 38+) well known Nd:YVO solid laser generating linearly polarized light and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in material machining application.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 7,316,067 to Blakey in view of USPN 6,782,016 to Braiman et al in view of USPN 4,959,119 to Lantzer in view of USPN 5,828,683 to Freitas in view of USPN 5,377,212 to Tatsuno et al.

Blakey describe (Figure 2) laser head 20, external modulator 21, and focus lens 23 used for laser drilling.

Braiman et al describe (Figure 4a) a pumped Nd:YAG laser resonator with external modulator 450 and focus lens 460.

Lantzer describes (column 3, lines 55-59) well known shortening of the laser pulse length which changes the laser power.

The instant claimed machining device for drilling holes would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the arrangement of the resonator and modulation means are well known and because changing the pulse length is very well known. Note, method limitations may not positively further limit apparatus claims.

Freitas describe (column 1, lines 17+) both flash lamp and diode pumped solid state lasers and the use of a flash lamp would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because of relative availability of the flash lamp.

Tasuno et al describe (column 5, lines 38+) well known Nd:YVO solid laser generating linearly polarized light and the use thereof would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art in material machining application.

Response to Arguments

Applicant's arguments with respect to claims 12-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ngoi et al and Hiramatsu describe laser machining comprising shortening the pulse width of the laser beam.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel M Heinrich/
Primary Examiner, Art Unit 3742